

Case Study

Sterlite's microduct fiber optic cables



Enabled the network installer significantly reduce the installation time at its customer premise and optimized the cost of installation.



Introduction

It's been almost three decades in the making, but fiber to the home (FTTH) is finally emerging into the mainstream and is set to transform the telecom environment worldwide over the next decade.

Netherlands leads Western Europe into the FTTH era

FTTH represents the first major upgrade to the access network since the deployment of cellular infrastructure in the 80s and 90s, and like cellular, it is likely to have a deep impact on the entire supply chain, including technology vendors and network operators.

Over the next 15 to 20 years, copper access networks worldwide will be largely replaced by a fiber access network, creating massive opportunities for vendors, network builders, and service providers. The most important catalyst for this change is a growing perception that copper access networks will soon no longer be able to meet the ever-growing consumer demand for bandwidth, driven mainly by the Internet, IP, and the many services running over it.

This environment has led to the beginnings of a mass migration to fiber in several countries. The Netherlands is currently one of the very few countries in Europe where genuine Fiber-to-the-Home is installed at a serious scale alongside Fiber-to-the-Building and Fiber-to-the-Curb.

To grow from the current scale, sufficient to deliver 100,000 to 150,000 new homes connected per year, efficiency in installation time is critical.

The Network Installer needed a cabling solution that gave it a competitive advantage

Of all the factors influencing the cost of FTTH deployment, construction cost is the biggest factor. Construction factors are mainly influenced by many local factors like availability of ducts, whether ducts can

be laid or aerial fiber to be deployed, labor cost and digging conditions etc.

It is estimated that the construction cost per household varies from the ideal scenario to worst-case scenario from about US\$300 to about US\$7000.

It was also necessary entrance of installation staff into homes and offices to mount the fiber terminations.

With fierce competition amongst Dutch FTTH installers, The Network Installer needed a competitive edge, wherein it could to meet with the installation target schedules and optimize the cost of installation.

A cabling solution was needed, that was quick to install within the existing conduit infrastructure

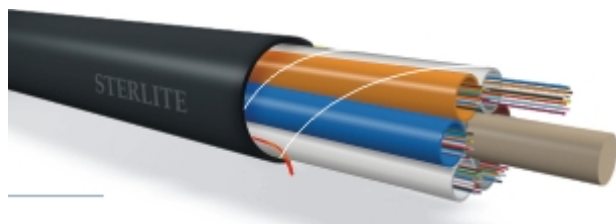
The typical premise locations in the Netherlands involve installations in heritage buildings, through stairwells and into customer homes where there is a limited opportunity to lay new cable conduits.

Thus it is necessary to have a solution that enables the cable installation within the existing conduit infrastructure within the building.

FTTH necessitates entrance of installation staff into homes and offices to mount the fiber terminations. Hence the cable installation solution should be quick to install, that minimizes the time within the customer premise.

Sterlite recommended that The Network Installer Cables use 'Microduct Fiber Optic Cables' in their FTTH installations

Micro DUCT-LITETM Fiber Optic Cables are very small diameter, lightweight and flexible cables that can be air blown into the existing ducts with sub duct size of 10/12 with a blowing pressure of maximum 12 Bar up to 2 km.



This enables ease in blowing of the cable through the pre-lubricated ducts. This enables expansion of the network with minimal costs, as the micro-duct cable can be installed within the existing free space of ducts, by putting the sub duct in the main duct.

The cable has a specially developed low shrinkage high-density polyethylene sheath with normal thickness of 0.5 mm. The cable can accommodate a fiber count in excess of 72F.

The Network Installer could provide enhanced value to its customers

- **Faster network roll-out:** New trenching for laying cable conduits or for direct burial of cables, invariably causes delays in the installation process on account of 'rights of way' and procuring the necessary permissions for excavation. As Sterlite Micro DUCT-LITE cables were installed in existing cables conduits, it entirely alleviated the need and cost of trenching.
- **Faster & efficient installation:** As the weight of Sterlite Micro DUCT-LITE fiber optic cables is about half of that of conventional fiber optic cables with the same fiber count, it improved the cable blowing efficiency and considerably improved installation costs.
- **Versatility of installations:** Sterlite Micro DUCT-LITE fiber optic cables enable mid-span access and also have a minimal bending stiffness with no preferential bending plane, the cables could be installed in the most extreme high cable density situations

As the cable has a specially developed low shrinkage high-density polyethylene sheath, it is able to withstand temperature extremes from -20oC to +70oC.

Trademarks

The trademarks 'Sterlite' and 'DUCT-LITE' are the property of Sterlite Technologies Limited (formerly Sterlite Optical Technologies Ltd).

References

1. FTTH Council Europe, Belgium
2. "FTTH Worldwide Market & Technology Forecast, 2006-2011", Published by Heavy Reading, USA
3. Telecommunications Online, USA
4. Stratix Consulting, Netherlands

About Sterlite Technologies Limited

Sterlite Technologies Limited ("Sterlite") [BSE: 532374, NSE: STRTECH], is a leading global provider of transmission solutions for the telecom and power industries. It is amongst the largest global manufacturers of optical fibers and is the largest manufacturer of power conductors, globally. For more details, please visit www.sterlitetechnologies.com

